

Work Order ID 58413-1

May 6, 2010 10:26:49 AM

split



Page 1

Item ID: D6011-115

Revision ID:

Item Name: Crosstube Material

Start Date: 5/06/10 Start Qty: 30.00

Required Date: 6/30/10 Req'd Qty: 30.00

Reference:

Approvals: Process Plan:

QC: CL

Date: Tooling:

Date: 10/15/10 SPC (Y/N):

Cust Item ID:

Customer:

Setup Start



Stop



Run Start



Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D6011

Rev A1

100



PURCHASING

0.00

Purchasing

Purchasing

Memo

0.00

Issue P/O: 11853

a) Order as per Dwg D6011 b) Material: 2.750 x 0.650 wall 7075-T6/T6511 (WW-T-700/7 or QQ-A-225/9 or QQ-A-200/11) seamless aluminum tube c) Minimum ultimate tensile strength = 77 ksi d) Minimum tensile yield strength = 66 ksi

110



Receive & Inspect for Damage & Mat'l Certs

0.00

Packaging

Packaging

Memo

0.00

Ensure material certification is attached

120



QC6- Inspect dimensions to drawing

0.00

QC

Quality Control

Memo

0.00

Ensure Material certification comply to Dwg

CL 10/15/10

CL 10/15/10

30

10/15/10 6

He

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 58413

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Item ID: D6011-115

Accept



Setup

Start



Revision ID:

Item Name: Crosstube Material

Start Date: 5/06/10 Start Qty: 30.00



Required Date: 6/30/10 Req'd Qty: 30.00



Reference:

Cust Item ID:

Customer:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run

Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

130

Hand Finish
Hand Finishing



Chemical Conversion Coat per QSI005 4.1

0.00

0.00

140

Packaging
Packaging



Identify as per dwg & Stock Location: L-6

0.00

MAT#27

0.00

150

QC
Quality Control



QC21- Final Inspection - Work Order Release

0.00

0.00

NA

Memo

10.07.19

MAT#27

Memo

0.00

6 - - AAM
10-07-19

Memo

0.00

J. front 20
MF
10-7-19

W/O:

WORK ORDER CHANGES

DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

May 6, 2010 10:26:47 AM

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Work Order ID: 58413



Parent Item: D6011-115



Parent Item Name: Crosstube Material

Comments: IPP Rev:A 01.08.17 New Issue SM
IPP rev B 07.09.18 rev A1 dwg

EC verified by:JLM

Start Date: 5/06/10

Start Qty: 30.00

Required Date: 6/30/10

Required Qty: 30.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item No	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Qty Issued	Date Issued	Status
D6011-115P		Purchased				100	Each	0.0000	1		10/7/10	(E)

Crosstube Material



W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____
 Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

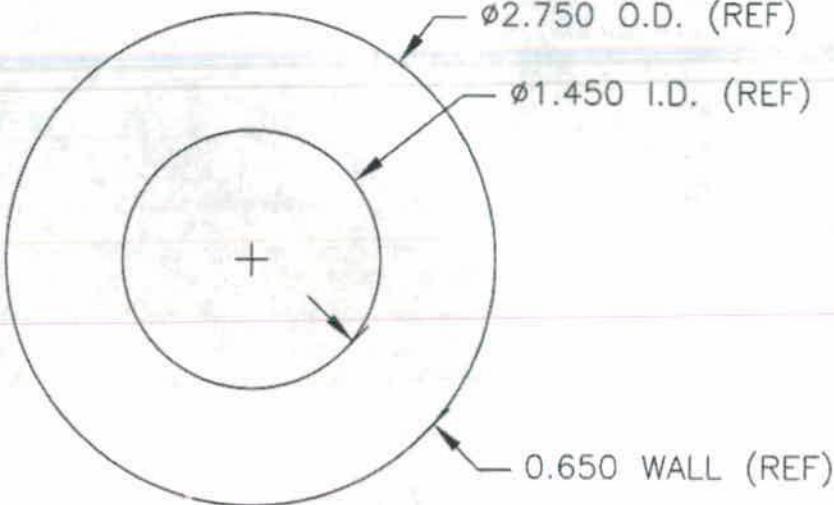
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

DART

DESIGN <i>[Signature]</i>	DRAWN BY <i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA		
CHECKED <i>[Signature]</i>	APPROVED <i>[Signature]</i>	DRAWING NO. D6011	REV. A	SHEET 1 OF 1
DATE 01.08.16	TITLE CROSSTUBE MATERIAL			SCALE 1:1
A	01.08.16	NEW ISSUE		
A1	RF 02-01-29	UPDATE TOLERANCE ON OD		

SPECIFICATION CONTROL DRAWING

RELEASED
01-08-17 *[Signature]**CL101516*
W10:58413NOTES

- 1) D6011-XXX CROSSTUBE

LENGTH

WHERE XXX IS LENGTH IN INCHES
EG. 115" LONG TUBE: D6011-115

- 2) MATERIAL: 2.750 OD x 0.650 WALL 7075-T6/T6511 (WW-T-700/7 OR QQ-A-225/9 OR QQ-A-200/11) SEAMLESS ALUMINUM TUBE.
MINIMUM ULTIMATE TENSILE STRENGTH = 77 ksi
MINIMUM YIELD TENSILE STRENGTH = 66 ksi
- 3) TOLERANCES ARE PER ASTM B210 AS FOLLOWS: ANSI H35.2 AS FOLLOWS A1
- O.D.: ~~± 0.006 MEAN (±0.012 INCLUDING OVALITY)~~ ~~± 0.015 MEAN (±0.030 INCL. OVALITY)~~
WALL: ± 0.020 MEAN (±0.065 INCLUDING ECCENTRICITY)
LENGTH: XXX +0.125/-0.000
- STRAIGHTNESS: 0.010" DEVIATION / 12" LENGTH
- 4) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
- 5) CHEMICAL CONVERSION COAT PER DART QSI 005 4.1

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Dart Aerospace Ltd.
1270 Aberdeen Street
Hawkesbury, ON K6A 1K7
Tel: 613 632 9577
Fax: 613 632 1053

PO REPRINT

Purchase Order ID PO11853

Purchase Order Date 5/07/10
PO Print Date 5/11/10

Page Number 1 of 2

Order From : VU-ALU001

ALUMINIUMWERK UNNA AG
UELZENER WEG 36, 59425 UNNA
GERMANY, GERMANY

Contact Name	Buyer	Chantal Lavoie
Vendor Phone	Requisition Nbr	
Vendor Fax	Tax Resale Nbr	10127-2607
Vendor Account Nbr	Terms	Net 30
	Currency	USD
	FOB	

Ship To : DART AEROSPACE LTD 1270 ABERDEEN
HAWKESBURY, ON K6A 1K7
CANADA

FAXED
6/10/12

Line Nbr	Reference Revision ID	Description/ Mfg ID	Req Date/ Taxable	Req. Qty/ Unit of Measure	Ship Method	Unit Price	Extended Price	
	Vendor Part Number							
1	D6008-132P	Crosstube extrusion	8/27/10 Yes	10.00 Each		\$1,121.0000	\$11,210.00	
		Special Inst:	AS PER DWG D6008 REV. A B58414 MATERIAL: 7075-T6/T6511 (WW-T- 700/7 OR QQ-A-225/9 OR QQ-A-200/11 SEAMLESS TUBE SIZE : 3.250" X 0.438" WALL LENGTH: 132" MINIMUM ULTIMATE TENSILE STRENGTH = 77 KSI MINIMUM TENSIL STRENGTH = 66 KSI TOLERANCE ARE PER ASTM B210					
2	D6011-115P	Crosstube Material	8/27/10 Yes	15.00 Each	Net 6/10/10	\$1,065.0000	\$15,975.00	
		Special Inst:	AS PER DWG D6011 REV. A B58413 MATERIAL: 7075-T6/T6511 (WW-T- 700/7 OR QQ-A-225/9 OR QQ-A-200/11 SEAMLESS TUBE SIZE: 2.750" X 0.650" WALL LENGTH: 115"					

MATERIAL CERTIFICATION
REQ'D UPON DELIVERY



Packinglist ALUnna AG

ALUnna ref. no. 36643/2
Customer PO. P.O.11853
Date: 07.07.10

We hereby declare that the wooden packing material are totally free from bark and apparently free from live plant pests

Boxmarking:

Dart Aerospace / P.O. 11853 / D6011-115
Made in Germany / Dest. Hawkesbury Ont, Canada

Abnahmeprüfzeugnis 3.1 - DIN EN 10204:2005

Inspection Certificate 3.1 - DIN EN 10204:2005 / Certificat de Reception 3.1- DIN EN 10204:2005

Kunde: Dart Aerospace Ltd.

Client:

1270 Aberdeen Street
K6A1K7 Hawkesbury, ON Canada

Zeugnisnummer:

882/10

Cert No.: / No. du certificat:

PO11853 PO12020

Produkt:

Product / Produit:

Rohre nahtlos gepresst

Tubes seamless extruded

Bestellnummer:

Order No. / No. de commande

36643/2

Auftrag:

Our Reference/Notre Reference:

Spezifikation:

Specification:

AMS - QQ - A - 200/11; Spezifikation Dart Aerospace D6011-XXX

7075

Zustand:

Temper/Etat

T6511

Werkstoff:

Alloy/Alliage:

Abmessung

Size / Dimension

2,750 INCH x 1,450 INCH x 0,650 INCH x 115,00 INCH

buff finish

S. olaric

Kennzeichnung

Marking/Marquage:

ALUnna-Cert.No.882/10-7075-T6511-Cast No.3540-AMS-QQ-A-200/11-2.750"OD x 0.650"Wall-Heat Lot No.800916-

ALUnna Order Conf.No.36643/2-1-P.O.11853

Lieferung:

Delivered Material / Matériel délivré:

pcs.

lbs

6

300

1. Chemische Analyse

Chemical Analysis / analyse chimique

Charge/ Cast No.	Si	Fe	Cu	Mn	Mg	Cr	Zn	Ti	Pb	Zr	Bi	Sn	Ni
min. max.			1,2		2,1	0,18	5,1						
max.	0,40	0,50	2,0	0,30	2,9	0,28	6,1	0,20					

3540/09	0,100	0,196	1,558	0,060	2,593	0,188	5,685	0,039	0,002	0,0291	0,0001	0,0013	0,0050
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Country of Manufacture: Germany

Elements without indication < 0,01 %

2. Mechanische Eigenschaften

Mechanical Properties / Valeurs Mécaniques

Anforderungen Requirements	tensile (Rm) ksi		yield (Rp0,2) ksi		elongation 2" %		elongation A %		Hardness HB		Heat Lot No.	
	min. max.	77,0	66,0									
1 2		87,870 88,595		80,765 81,780		11,0 11,0						800916 - 6 pcs.

RMS outside 25 - max. 9,9 μ "

**Ergebnis der
Prüfungen:**

Es wird bestätigt, daß die Lieferung geprüft wurde und den Vereinbarungen bei der Bestellannahme entspricht

Test results:

We confirm that the delivery has been tested and applies to the agreements made on receipt of the order

07.07.2010 / Kr



Certified acc. DIN EN ISO 9001:2000 and DIN EN 9100:2003
valid until 2010-11-11

Cert.-Reg. No.: 001959 QM; 001959 ASH

Aluminiumwerk Unna AG, Uelzener Weg 36, 59425 Unna, Germany

 ALUnna 
Abnahmbeauftragter